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**REGULATORY EVALUATION,  
REGULATORY FLEXIBILITY DETERMINATION,  
TRADE IMPACT ASSESSMENT, AND UNFUNDED  
MANDATES DETERMINATION**

**FINAL RULE**

**SERVICE DIFFICULTY REPORTS  
(14 CFR 121, 125, 135, and 145)**

**OFFICE OF AVIATION POLICY AND PLANS  
OPERATIONS REGULATORY ANALYSIS BRANCH  
APO-310**

**DAVID TEITELBAUM  
MAY 2000**

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- The SDRS data entry person - \$23.42 (GS-9);<sup>4</sup>
- The PMI - \$40.39 (GS-13); and
- A data base or computer programmer - \$40.39 (GS-13).

From 1989 to 1998, about 41,500 SDR's were generated annually.<sup>5</sup> From 1996 to 1998, an average of 2,600 repair station SDR's were entered into the SDR database both from repair stations and air carriers. And, approximately 1,200 supplemental SDR's were entered into the SDR database.<sup>6</sup>

The total number of certificate holders that will be affected by this final rule, as defined by 14 CFR, are as follows:<sup>7</sup>

- Part 121 and 121/135 certificate holders - 156
- Part 125 and 135 certificate holders - 2,940
- Part 145 certificate holders - 4,599

### Costs

Sections 121.703(d), 125.409(d), and 135.415(d) will require that the reports be made available for review for 30 days. The FAA asserts that all certificate holders usually retain SDR's indefinitely; therefore, a 30-day retention requirement will not place any burden on the certificate holders.

Sections 121.703(e), 121.704(d), 125.409(e), 125.410(d), 135.415(e), 135.416(d), 145.63(a), and 145.79(c) requires that all certificate holders shall submit the reports required by this section on a form or in another format acceptable to the Administrator. Since these sections merely codified current practice, there will be no cost to such a requirement.

Sections 121.703(e) and 135.415(e) set out a list of data items that will be required. The FAA believes that there

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Nationwide to the Secretary/CRT Operator/Word Processor category. This wage was updated to 1998 dollars and multiplied by 32.45%.

<sup>4</sup> The cost requirements for all government personnel for the applicable GS level were obtained by multiplying the annual salary at the Step 5 level times the fringe benefits factor of 1.3245.

<sup>5</sup> Source: FAA Operational Systems Branch (AFS-640).

<sup>6</sup> The FAA does not keep a record of how many 'supplemental' reports received each year, but estimates that they average between 2 to 3 percent of annual SDR reports.

<sup>7</sup> Based on information from Dunn & Bradstreet, April 1998.

will be no cost impact from these changes and that the amount of time needed to enter the additional information onto the standardized reporting form, FAA Form No. 8070-2, will be offset by those data items that will no longer be required.

Sections 121.703(e)(8), 121.704(d)(7), 125.409(e)(8), 125.410(d)(7), 135.415(e)(8), and 135.416(d)(7) will revise the requirement to allow air carriers to submit parts information that includes aircraft total time and total cycles.<sup>8</sup> These sections will require the submission of the total cycles (if applicable) as well as the total time of the aircraft, aircraft engine, propeller, or component. The FAA assumes that all air carriers currently have this information due to existing regulations, so these additional regulations will not impose any costs on certificate holders and operators.

Sections 121.703(e)(9), 121.703(e)(10), 125.409(e)(9), 125.409(e)(10), 135.415(e)(9), and 135.415(e)(10) will add the requirement that the manufacturer, part number, part name, part serial number, and location of the malfunctioning item be submitted as part of the SDR. This information currently is available to air carriers and repair stations and is being included in some reports voluntarily now. Therefore, the FAA does not believe that requiring these items will add any additional time to filling out the reports, and hence, the FAA believes that there will not be any additional cost.

Sections 121.703(g), 121.704(f), 125.409(g), 125.410(f), 135.415(g), and 135.416(f) will permit part 121, 125, and 135 certificate holders to authorize a repair station to submit an SDR on their behalf. Sections 145.63(e) and 145.79(f) will require that the repair stations provide a copy of the report submitted by the repair station to the part 121, 125, or 135 certificate holder on whose behalf the report was submitted. These sections will result in increased costs for the repair stations. However, these sections will allow for cost savings by eliminating duplicate reports; repair stations will submit the report for input into the SDRS that is currently submitted by both repair stations and air carriers.<sup>9</sup>

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<sup>8</sup> This information is only required for specific aircraft types. Also, the FAA will make the total time and total cycle information requirement more part specific so that information on the affected part will be required rather than aircraft total time and total cycles only.

<sup>9</sup> The cost savings portion of this section is covered in the section titled Cost Savings below.

Approximately 2,600 repair station SDR's were entered into the SDR database both from repair stations and air carriers. Since repair stations will now do all the reports, the FAA assumes in this analysis that half of this number of reports is the maximum number that will not have to be generated and processed in the SDR system under this section. Each report will be mailed, faxed, or submitted by electronic mail (e-mail) from the repair station to the air carrier. The FAA also assumes that all reports are mailed, and that it will take 5 minutes to make a photocopy (at 10 cents per copy) and to mail the report, and it will take 5 minutes for an employee of the air carrier to process and file this report. These tasks will be performed by an employee at the clerical/staff assistant level. All these factors will increase costs, at a maximum, by approximately \$3,500 per year. Over 10 years, these costs can be as much as \$35,400 (net present value, \$24,800).

#### New Reporting Requirements

In 15 sections, the changes will add reporting requirements for part 121, 125, and 135 certificate holders. These additional requirements are for information that has not been collected before or had been collected through voluntary reporting. Therefore, because there is little or no historical data on this information, the FAA does not know how many extra reports these new requirements will generate. These new changes will ensure that all appropriate information is collected and that there will be a better database of information.

In the SNPRM, the FAA assumes that each of these proposed requirements could increase the total number of SDR's filed in 1 year by 1 percent, or 370 additional annual reports. The FAA requested comments on the number of additional SDR's these 15 section changes would generate. As is discussed in Section VI, Comments, commenters believe that these new change will double the total number of SDR's. The FAA disagrees, however, to be conservative, the FAA bases costs on a 45% increase in SDR's due to these new sections (i.e., an average of 3% more per section rather than 1% more per section). Hence, the FAA assumes that each of these requirements can increase the total number of SDR's filed in 1 year by 1,245 additional annual reports, based on the most recent annual total of 41,500 reports. The cost impact for each report will be based on the time needed to process the SDR, including 10 minutes for each of the following actions

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-- writing up an SDR, reviewing it by the supervisor, and entering it into the SDR data base. Hence, each new section will generate \$16,600 in additional costs each year for a total of \$248,800 per year for all 15 sections.

In addition, the FAA assumes that some of these reports will be filled out only at the repair station, which will necessitate sending an additional report to the air carrier operator, as described in the discussion of §§ 145.63(e) and 145.79(f) above. Using the assumed 3 percent, this means an additional 39 reports will need to be sent annually per section, based on the most recent annual total of half of the 2,600 repair station reports. These new reports will generate an additional \$1,600 in costs each year.

Using these assumptions, the FAA calculated annual costs based on an additional 18,675 SDR's (1,245 reports x 15 sections) and an additional 585 reports (39 reports x 15 sections) from the repair stations to the air carriers. Over 10 years, these costs sum to \$2.50 million (net present value, \$1.76 million). What follows will be a description of each of these sections.

Sections 121.703(a)(1), 125.409(a)(1), and 135.415(a)(1) will specify that a certificate holder must report each failure, malfunction, or defect involving any fire, rather than only those fires that occur during flight as is currently prescribed by the regulations. The changes will ensure that information also is reported on fires that occur on the ground because these fires may affect the safety of flight.

Sections 121.703(a)(2), 125.409(a)(2), and 135.415(a)(2) will require that any false fire warning or false smoke warning be reported, not just those that occur in flight as currently is required.

Sections 121.703(a)(3), 125.409(a)(3), and 135.415(a)(3) will require that information on damage to an engine, adjacent structure, equipment, or components caused by a failure, malfunction, or defect of an engine exhaust system be reported by the certificate holder regardless of whether such damage occurred in flight or on the ground. Current regulations require only that the certificate holder report such damage that occurs during flight.

Sections 121.703(a)(4), 125.409(a)(4), and 135.415(a)(4) will require that the failure, malfunction, or defect of aircraft components that causes an accumulation or circulation of smoke, vapor, or toxic or noxious fumes

anywhere in the aircraft be reported. The current requirements only address these events if they occur in the crew compartment or passenger cabin during flight.

Sections 121.703(a)(5), 125.409(a)(5), and 135.415(a)(5) will require that the certificate holder report failures, malfunction, or defects involving all engine flameouts and shutdowns during ground or flight operations. The current rule only requires reports of such service difficulties if they occur during flight. These new sections will exclude intentional engine shutdowns, such as those that occur during flight crew training, test flights, and taxiing to reduce fuel consumption on the ground.

Sections 121.703(a)(6), 125.409(a)(6), and 135.415(a)(6) will require that the certificate holder report the failure, malfunction, or defect of any propeller feathering system or the ability of the system to control overspeed events whether such events occur during flight or on the ground. Current part 121 and 135 regulations only require reports of such service difficulties if they occur during flight.

Sections 121.703(a)(9), 125.409(a)(9), and 135.415(a)(9) will change the current wording "loss of brake actuating force" to "any detectable loss of brake actuating force" so as to clarify the interpretation of the term "loss." (Some air carriers have interpreted the term "loss" to mean total loss of braking action.)

Sections 121.703(a)(10), 125.409(a)(10), and 135.415(a)(10) will require the reporting of information relating to aborted takeoff. Currently, air carriers are not required to report information on aborted or "rejected" takeoffs.

In §§ 121.703(a)(12), 125.409(a)(12), and 135.415(a)(12), the FAA delineates a new reporting requirement for failures, malfunctions, or defects of autothrottle, autoflight, or flight control systems, or components that are not reported under the current regulations. At times, certificate holders have been voluntarily reporting such failures, malfunctions, or defects, but it is impossible to know how many have not been reported. Although such events could be reported under current § 121.703(c) or § 135.415(c), the SDR database does not indicate that such reports are being made.

Sections 121.703(c), 125.409(c), and 135.415(c) will require the reporting of any failure, malfunction, or defect in an aircraft system, component, or powerplant that occurs or is detected at any time if that failure, malfunction, or defect has endangered or may endanger the safe operation of an

aircraft. The phrase "in its opinion" will no longer be included in the rule language. Reports submitted under the provision will provide the FAA with additional data concerning failures, malfunctions, or defects not otherwise specified in the rule that involve modern, complex aircraft.

Sections 121.703(e)(11), 125.409(e)(11), and 135.415(e)(11) will require reports of those situations in which there are certain indications that may result in an aircraft returning to the gate for precautionary reasons (e.g., an unusual or abnormal fuel quantity indication while taxiing for take-off). Such events may not require the use of emergency procedures; therefore, certain certificate holders may not currently report the information under the existing or previous rules.

Sections 121.704(a)(3), 125.410(a)(3), and 135.416(a)(3) will include a reporting requirement whenever disbonding of any primary structure or principal structural element is detected. Currently, air carriers may report disbonding in accordance with §§ 121.703(c) or 135.415(c); the reporting of disbonding defects is necessary in the early identification of safety-of-flight issues associated with aging aircraft.

Sections 121.704(a)(4), 125.410(a)(4), and 135.416(a)(4) will require reporting in each the following: 1) any defect that leads to replacement, 2) any rework that exceeds the manufacturer's established allowable damage limits, 3) any defect in PSE's (Primary Structural Elements), or 4) repairs made in accordance with approved data not contained in the manufacturer's maintenance manual.

Sections 121.704(b), 125.410(b), and 135.416(b) will require, in addition to the other reports listed above, certificate holders to report any other failure or defect that occurs or is detected in an aircraft structure if the failure or defect may endanger the safe operation of the aircraft. The phrase "in its opinion" will no longer be included in the rule language. As noted above, the provision will provide the FAA with additional information concerning failures, malfunctions, or defects not otherwise specified in the rule that involve modern, complex aircraft.

Section 135.417 will require reports for all interruptions to flight regardless of whether they occurred in a single- or multiengine aircraft. Also, the FAA has added unscheduled engine removals caused by known or suspected mechanical difficulties to the list of items required to be



reported.<sup>10</sup> Current regulations require reports when there are interruptions to a flight on a multiengine aircraft; in most cases, any flight interruptions involving a single-engine aircraft operated under part 135 or unscheduled engine removals are also reported.

Total quantifiable costs, over 10 years, sum to \$2.49 million (net present value, \$1.75 million).

### Cost Savings

Several provisions will create cost saving opportunities for the regulated entities.

Sections 121.703(d), 125.409(d), and 135.415(d) may reduce the PMI's workload. Currently, all reports go from the certificate holder to the Flight Standards District Office (FSDO) where the PMI spends time reviewing the SDR before forwarding it to the SDRS in Oklahoma City. The rule will require certificate holders to submit these reports directly to Oklahoma City, thus reducing the PMI's workload. However, under the final rule, the certificate holder will still be required to make the SDR data available to the FSDO for examination.<sup>11</sup> This will allow PMI's to remain informed of SDR activity while improving the timeliness of getting the information into the SDRS; this will in turn improve the promptness and accuracy of the FAA processing of the data and increase the data's availability for analysis. Although PMI's must still remain informed, they may not have to spend their time forwarding the material. Currently, a PMI needs to spend 10 minutes reviewing each report and 5 minutes forwarding it; this 15 minutes spent per report can be reduced to 10 minutes for an inspection of each report.

Given an average of 41,500 reports annually and assuming this savings of 5 minutes per report, PMI's can save approximately 3,500 hours annually on this task. At a fully loaded hourly wage of \$40.39, this equals an annual cost savings of \$139,700. Over 10 years, this cost savings equals \$1.40 million (net present value, \$981,000).

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<sup>10</sup> This change will facilitate the continued compilation of data for preparation of the FAA's Air Carrier Aircraft Utilization and Propulsion Reliability Report.

<sup>11</sup> The PMI is still responsible for knowing about this information. In addition, SDR's are available under the Safety Performance Analysis System (SPAS) program that will be available at all FSDO's, so the PMI will always be able to access this information.

The changes in §§ 121.703(d), 125.409(d), 135.415(d), 145.63(a), and 145.79(c) allow an increase from 72 hours to 96 hours for the submission of the reports, which will allow more flexibility to the certificate holders but probably will not reduce costs more than minimally.

Sections 121.703(e)(13), 121.704(d)(9), 125.409(e)(13), 125.410(d)(9), 135.415(e)(13), and 135.416(d)(9) will add a requirement that an SDR include a unique control number for an occurrence.<sup>12</sup> Not only will this section not generate any new costs, but it will yield benefits (which will be discussed in the next section) and some cost savings. Many certificate holders currently use such a number. Adopting a uniform code is no more time consuming than using any other numbering system.

The cost savings result both from the reduction in the number of duplicate reports for the same occurrence in the SDR database and the more simplified, methodical method for the FAA and industry to reference an SDR. Traditionally, when a supplemental report has been submitted to the SDRS, each supplemental report was entered as if it were an original report, thus making it difficult to link it to the original report. Using a unique control number for each occurrence will reduce the duplication within the SDRS.<sup>13</sup> The cost savings will be the amount of time spent to find and link these reports within the SDRS (30 minutes) times the wage rate of the data entry clerk times the number of supplemental reports submitted. The actual cost savings will almost certainly be lower because some certificate holders are voluntarily using a control number, so any cost savings that they have incurred will not be due to this rule. As noted above, the total number of supplemental reports affected by this rule can be as high as 1,200 per year. This can yield cost savings as high as \$14,100 per year.<sup>14</sup> Over 10 years, this sums to \$140,500 (net present

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<sup>12</sup> As an example, a control number could begin with the first four alphanumeric characters of the submitter's certificate number. The next two numbers could be used to designate the calendar year in which the SDR is submitted. The remaining numbers can be generated by the submitter.

<sup>13</sup> The time required to locate open SDR's in the database to amend the SDR with the data from the supplemental SDR has been very labor intensive, requiring a manual search. This technique is not always successful and often requires additional time to call the certificate holder or the responsible inspector to verify data.

<sup>14</sup> This was obtained by multiplying the number of supplemental SDR's (1,200) by the hourly wage rate of data entry personnel (\$23.42) and dividing by 2 (to represent half an hour).

value, \$98,700). The actual number of reports affected, and therefore the actual cost savings, will almost certainly be lower because some certificate holders are already using a control number.

Sections 121.703(g), 125.409(g), and 135.415(g) will reduce dual reporting. Currently, when a repair station identifies a failure, malfunction, or defect, this information is reported by both the repair station under § 145.63(a) or § 145.79(c), as appropriate, and the part 121, 125, or 135 certificate holder. Therefore, information about the same problem may be reported twice to the FAA. The revisions are intended to eliminate these duplicate reports. However, the certificate holder will not be relieved of the responsibility to ensure that these reports are submitted. The rule will require that the part 121, 125, or 135 certificate holder receive a copy of the report submitted by the repair station.<sup>15</sup>

Cost savings will accrue, for each repair, both because of one less report needing to be generated and one less report needing to be entered into the SDRS. As mentioned above, an average of 2,600 repair station SDR's were entered into the SDR data base, so this analysis will assume that half this number of reports will not have to be generated and processed.<sup>16</sup> Based on the amount of time to write up, review, and enter the data (10 minutes each), the FAA estimates that these changes will reduce costs by \$17,300 per year.<sup>17</sup> Over 10 years, this cost reduction will sum to \$173,200 (net present value, \$121,600).

Section 125.409 will require reports for specific events rather than reports of the occurrence or detection of every failure, malfunction, or defect. The changes will eliminate the reporting of defects that do not compromise the airworthiness of the aircraft. The rule will revise requirements to make part 125 equivalent to the requirements in §§ 121.703 and 135.415. The FAA believes that any cost savings will be insignificant.

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<sup>15</sup> These costs were covered above in the section entitled Costs.

<sup>16</sup> As noted above, since repair stations will now do all the reports, the FAA assumes in this analysis that half of this number of reports is the maximum number that will not have to be generated and processed in the SDR system under this section.

<sup>17</sup> This annual change was obtained by summing the hourly salaries of the employee writing up the SDR (\$26.55), the data entry person (\$23.42), and the supervisor (\$29.95), dividing by 6 (to accommodate to 10 minutes worth of work) and multiplying this sum by 1,300 SDR reports.

Total cost savings over 10 years sum to \$1.71 million (net present value, \$1.20 million). Total costs and cost savings can be seen in Table 1; these show net costs of \$781,200 (net present value, \$548,600), while the impact on air carriers, repair stations, and the FAA can be seen in Table 2. However, two factors could increase or decrease these total costs. Net costs could be lower if the annual increase in the number of additional reports due to the new reporting requirements is less than the assumed 45% increase in total reports due to the new reporting requirements. Indeed, if this increase in reports were less than 31%, this rule would yield net cost savings.<sup>18</sup> On the other hand, net costs could be higher because the cost savings from using a unique control number almost certainly will be less than the amount shown in Table 1; however, the FAA does not have the data to determine how much less it will be.

<b>Table 1 -- 10-Year Costs and Cost Savings (1998 dollars)</b>		
	<b>Total Costs</b>	<b>Discounted Costs</b>
<b>COSTS</b>		
1) §§ 121.703(g), 121.704(f), 125.409(g), 125.410(f), 135.415(g), 135.416(f), 145.63(e) and 145.79(f)	\$35,360	\$24,834
2) New reporting requirement sections	\$2,456,181	\$1,725,025
<b>TOTAL</b>	<b>\$2,491,541</b>	<b>\$1,749,909</b>
<b>COST SAVINGS</b>		
3) §§ 121.703(d), 125.409(d), and 135.415(d)	\$1,396,707	\$980,963
4) §§ 121.703(e)(13), 121.704(d)(9), 125.409(e)(13), 125.410(d)(9), 135(e)(13), and 135.416(d)(9)	\$140,523	\$98,694
5) §§ 121.703(g), 125.409(g), 135.415(g)	\$173,160	\$121,618
<b>TOTAL</b>	<b>\$1,710,390</b>	<b>\$1,201,275</b>
<b>NET COSTS</b>	<b>\$781,151</b>	<b>\$548,634</b>

<sup>18</sup> This percentage was obtained by reducing the estimated number of additional reports due to the new section until the costs were less than the cost savings.

<b>Table 2 – 10-Year Cost Impact of Rule on Industry Sectors and the FAA (1998 dollars)</b>						
	<b>Air Carriers</b>		<b>Repair Stations</b>		<b>FAA</b>	
	Total Costs	Discounted Costs	Total Costs	Discounted Costs	Total Costs	Discounted Costs
<b>COSTS</b>						
1)	\$0	\$0	\$35,360	\$24,834	\$0	\$0
2)	\$2,427,750	\$1,705,107	\$28,431	\$19,967	\$0	\$0
<b>TOTAL</b>	<b>\$2,427,750</b>	<b>\$1,705,107</b>	<b>\$63,791</b>	<b>\$44,801</b>	<b>\$0</b>	<b>\$0</b>
<b>COST SAVINGS</b>						
3)	\$0	\$0	\$0	\$0	\$1,396,707	\$980,963
4)	\$0	\$0	\$0	\$0	\$140,523	\$98,694
5)	\$173,160	\$121,618	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$173,160</b>	<b>\$121,618</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,537,230</b>	<b>\$1,079,657</b>
<b>NET COSTS</b>	<b>\$2,254,590</b>	<b>\$1,583,489</b>	<b>\$63,791</b>	<b>\$44,801</b>	<b>(\$1,537,230)</b>	<b>(\$1,079,657)</b>

#### IV. Analysis of Benefits

The use of a unique control number will help reduce the possibility of duplicate SDR reports being entered into the SDR database. In addition, the additional time for discovery from submitting reports should reduce the number of supplemental reports filed. A more efficient system will preserve and improve the integrity of the database and allow for better and more complete analysis of data.<sup>19</sup> Additional specific benefits of these rule changes include standardizing reporting requirements for air carriers, which allows for more consistent data.

The regulations will enhance air carrier safety by collecting specific data that identify mechanical failures, malfunctions, and defects that may be a hazard to the operation of an aircraft. The information collected can be used to develop and implement corrective actions to help prevent future occurrences of these failures, malfunctions, and defects.

As noted above, the SDR system is used to identify trends and to provide an overview of product service data. Identifying these trends could help to catch problems early, which could allow Airworthiness Directives to be based on better information. In addition, an SDR will give an operator the ability to use trend information (and knowledge of potential problems) to better plan its maintenance

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<sup>19</sup> As will be discussed further in the Comments section, SDR data is used by FAA personnel, the National Transportation Safety Board, foreign governments, and branches of the U.S. military as well as being subject to Freedom of Information requests from media and attorneys.

scheduling, a major benefit for airplane operators. The FAA believes that because of the improved SDR information resulting from these regulations, additional information and equipment malfunction trends could be identified that will lead, over time, to safer airplanes.

## V. Comparison of Costs and Benefits

This rule will generate costs to the industry. The costs will include new reports generated by new reporting requirements as well as copies of reports from repair stations to certificate holders, but certificate holders will no longer need to file SDR's. Duplicate reports, as well as duplicate entries in the SDRS, will be reduced, resulting in cost savings. These changes are expected to generate net costs over 10 years of \$781,200 (net present value, \$548,600). However, as noted in the Costs section, given the uncertainty as to how many additional reports these new reporting requirements will generate, there is some uncertainty as to the magnitude of total costs.

In addition to eliminating the number of duplicate reports that have been entered into this system, the regulations will enhance air carrier safety by collecting additional and more timely data that identify mechanical failures, malfunctions, and defects that may be a serious hazard to the operation of an aircraft. This data can be used to identify trends which could help to catch problems early and to better plan its maintenance scheduling. All of this can lead, over time, to safer airplanes.

Contrasting the rule's costs to its benefits, the FAA finds this rule to be cost beneficial.

## VI. Comments

Only those comments that deal directly with economic issues as described in the SNPRM are dealt with in this section. A total of 8 commenters raised economic issues.

### Costs

The economic analysis attributed relatively minor costs to the operators as a result of the SNPRM. Commenters believe that the analysis was wrong in many areas:

1. Several commenters stress that switching from ATA codes to JASC codes will be costly. Computers would have to be reprogrammed and staff would have to be trained to

familiarize staff with the proper coding. Indeed, one air carrier claims that being forced to use the JASC rather than the ATA code would cost as much as \$840,000 in training costs and \$500,000 in reprogramming costs. Two other air carriers also agree that this change would be costly.

FAA Response:

The ATA code and the procedures that they refer to can be stored on a table in the computer program. The major difference between the ATA and the JASC codes are that the latter includes more detailed descriptions aircraft systems, and components. Hence, the air carrier operators will only need to obtain the new documentation to update the table in their computer and not retrain any of their employees. Since there is no requirement for electronic submission, any additional costs would be de minimus.

2. In the same vein, a trade organization claims that the proposed rule will mandate additional fields with which the data can be sorted and these additional fields will be provided at the expense of the air carriers. This organization estimates that the JASC code and unique control number will add at least 5% to the air carrier's processing costs. If multiple amendments are required for parts within components, then RAA estimates that the processing costs will increase by 100% to 200%.

FAA Response:

Additional fields will not have to be added. The FAA is not requiring more types of information, but rather, more specific data about existing pieces of information that is already submitted. The trade organization misunderstood this part of the proposed rule. The FAA is only requiring 13 items on the report, while the commenter believes that the FAA is requiring that all data be required on the form. If their interpretation were correct, then they would be correct in assuming higher costs. The FAA has changed the rule language to clear up this confusion and has clarified the Preambular language in this regard.

3. Five commenters do not believe the additional number of SDR's would rise by 1 percent (which the NPRM economic analysis assumed for each of the 15 new requirements). It is possible that they misunderstood what the analysis assumed; the economic analysis indicated that each new section would add 1% more SDR's and the commenters may have thought that together, these 15 new requirements would add 1% more SDR's. Nevertheless, these commenters

believe that the number of SDR's will drastically increase, possibly at least double.

FAA Response:

The FAA is increasing the number of what needs to be reported about each defect. Operators should already be recording most of the information to maintain the airworthiness of the aeronautical product as required by other various regulations not addressed in this rulemaking.

Hence, the FAA does not believe that the number of SDR's will increase by more than the 15% discussed in the regulatory evaluation. However, to be conservative, the FAA will base costs in the final rule on a 45% increase in SDR's due to these new sections (i.e., an average of 3% more per new section rather than 1% more per new section).

4. The answer to #3 has cost implications, as one air carrier points out, for they would have to hire additional personnel, while 2 air carriers point out that the FAA would have to hire additional personnel as well. Another air carrier notes that each reportable event must be written up by maintenance personnel, then transmitted by teletype to the central office that processes the reports; the man-hours diverted from aircraft maintenance to report writing will be significant. Hours/cycles and other required inputs must be accumulated, and draft reports written, proofread, and corrected, so that total extra costs would be in the thousands. One commenter claims that many internal costs to the air carriers, such as training, procedural and administrative systems will need to be revamped, overhauled, and created.

FAA Response:

The existing rule only requires that the data go to the Certificate Holder's District Office (CHDO), hence, any changes in how any of these air carriers report information is based on their internal operating procedures, rather than changes in the rule. The FAA does not believe that any of the operators will need additional personnel; the SDR program has been in existence for years, and the FAA is not making major changes nor is it mandating the type of major new requirements that will cause the operators to require more personnel.

5. Four commenters were unhappy with the requirement to adjust the process from filing the time the aircraft returns to service to 96 hours from the time of discovery. They claim that this will increase their labor costs with questionable benefits. One air carrier commenter claims that they would have to hire 2



additional analysts needing computers, at a cost of \$213,000 per year. All claim that this will result in more open reports being filed because all of the repair data is not available, resulting in more work both for the operator, the repair station, and for the FAA.

FAA Response:

The current rule has been for operators to report within 72 hours from the time of discovery rather than from the time the aircraft returns to service. The FAA is making this process less burdensome by changing the 72 hours to 96 hours.

6. One air carrier is presently using Macintosh computers to submit SDR's. This commenter claims that, in order to continue to process SDR's, they will require an additional outlay of approximately \$10,000 dollars for new hardware and \$260 per month charge for a service maintenance agreement on equipment.

FAA Response:

The FAA believes that the commenter misread the economic analysis. The analysis acknowledges "that that there are seven certificate holders who use Apple Macintosh computers, and that it would cost \$150 to install the software to allow these Macintosh computers to interface with an IBM-compatible system for a total cost of \$1,050." Hence, the commenter's submitted cost estimates are not correct.

Since the economic evaluation for the SNPRM was written, the FAA has changed its operating procedures. Operators can now submit the required information using the Internet rather than submit this information to the bulletin board system it had been using if they choose to file electronically. Accordingly, there will now be no need for any operator to have to purchase any software to allow Macintosh computers to interface with an IBM-compatible system.

7. Several commenters are unhappy about the mandated electronic filing. One air carrier claims that they will have to change the way that data is gathered, input, and submitted at a cost to them of \$50,000. Another air carrier calls this requirement an additional burden on operators.

FAA Response:

The FAA modified the requirements so that electronic filing will not be mandatory.

8. One air carrier notes that the NPRM is moving the reporting burden from the FAA Certificate Management Office (CMO) to the industry; the CMO reviewed the data and reported it to the central FAA office. By removing them from the process, their responsibilities now falls on the carriers. This commenter claims that the NPRM should address the impact of removing the FAA from the reporting chain.

FAA Response:

The regulatory burden has always been on the industry to review and report the data. Hence, removal of the CMO will not place any new regulatory burdens on the industry.

9. Several commenters were uncomfortable with the FAA's contention that "on average, it would cost each individual air carrier \$15 per year and each repair station \$1 per year," saying that the SDR program costs air carriers much more per year.

FAA Response:

To obtain these values, the FAA divided the cost of the proposed changes by their applicable industry group. As noted above, there are about 3,100 certificated air carriers, which include part 121, part 121/135, part 125, and part 135 air carriers, and about 4,600 repair stations. The FAA did err in not making it clear that these average annual costs were for the changes to the proposed rule rather than the entire cost of the SDR program.

10. In sum, most of the commenters believe that the costs were way undervalued. For instance, one commenter estimates that the air carriers' cost of processing SDR data will increase by 20%. Another commenter estimated that the proposal would cost individual airlines more than \$1.7 million. This estimate is based upon line items including staff training, computer re-programming costs, additional resources, and computer hardware. A third commenter says that first year additional costs sum to \$1.994 million due to mandated electronic transmission of SDR's, increase cope of items to be reported, and the constraints of filing structural SDR's. A fourth commenter simply says that it is obvious that all man-hour and cost estimates are grossly underestimated.

FAA Response:

The FAA does not believe that there will be major additional costs to the industry. The FAA did eliminate the requirement for part 121 carriers to file electronically,

which should reduce costs over what was reported in the SNPRM analysis.

#### Benefits

Almost all of these commenters were unanimous in believing that the overall benefit of SDR is dubious at best and that the added costs do not justify the increase in benefits. Different commenters claimed that:

- the SDR system is seldom used in the decision making process either because the SDR information comes too late or the data (in a flat file format) is unworkable. It will continue to remain a 'secondary tool' in determining, airworthiness issues;
- the new requirements will not provide the FAA with valuable 'safety' information;
- there are no real benefits to offset the costs imposed by data collection. In addition, there has been no demonstrated increase in safety as a result of mandatory reporting;
- reporting SDR's is time consuming and labor intensive exercise that may have little or no value and the commenter is not confident that the increase in data will result in any gain in safety. In addition, the proposal only addresses the benefits to the FAA; and
- the costs of reporting alone will far outweigh any benefits from SDR reporting. The practical utility of the current information collection requirements for SDR's is negligible. The current reporting requirements are applied inconsistently through the industry, resulting in skewed information being available for analysis, potentially invalidating most resultant benefits. The proposed rule will further complicate an already unmanageable reporting system of questionable value.

The FAA disagrees with these comments. Currently, the FAA uses the SDRS in the following ways:

- FAA personnel request SDR data; these requests involve:
  - ◆ Using this data for aircraft safety inspections;
  - ◆ Whenever there is an accident, the Office of Accident Investigation draws on this data; and
  - ◆ Supporting investigations into incidents.
- National Transportation Safety Board (NTSB) personnel request data from the SDRS to assist in their accident investigations;
- There are numerous requests, from the media and attorneys, for the SDR data under the Freedom of Information Act;

- Foreign countries and branches of the U.S. military services use the SDR data for research.

This final rule will lead to clearer, more timely, and more consistent data. The improved SDR will provide the FAA with airworthiness statistical data necessary for planning, directing, controlling, and evaluating certain assigned safety-related programs. The reporting system provides FAA managers and inspectors with a means for monitoring the effectiveness of self-evaluation techniques being employed by certain segments of the civil aviation industry. In addition, information submitted to the SDRS is used for the identification of recurring service problems.

However, the FAA realizes that the SDR database has not been used to its fullest potential in the past. The FAA undertook this rulemaking effort to correct deficiencies in the reporting requirements. The FAA will be able to use these records to make recommendations before accidents occur, leading to Airworthiness Directives and aviation alerts.

## VII. Regulatory Flexibility Determination

The Regulatory Flexibility Act (RFA) of 1980, 5 U.S.C. 601-612, directs the FAA to fit regulatory requirements to the scale of the business, organizations, and governmental jurisdictions subject to the regulation. We are required to determine whether a proposed or final action will have a "significant economic impact on a substantial number of small entities" as defined in the Act. If we find that the action will have a significant impact, we must do a "regulatory flexibility analysis."

For this rule, the small entity group is considered to be part 121, 125, and 135 air carriers (Standard Industrial Classification Code [SIC] 4512) and part 145 repair stations (SIC Code 4581, 7622, 7629, and 7699). The FAA has identified a total of 98 part 121 air carriers, 2,118 part 125 and part 135 air carriers, and 2,790 part 145 repair stations that will be considered small entities.

These regulations will cost all small air carriers \$2.08 million (present value, \$1.46 million) and repair stations \$99,200 (present value, \$69,600) over the next ten years. On average, the economic impact is minimal; it will cost each individual certificated air carrier \$67 per year and each repair station \$2 per year for these changes. Therefore, we certify that this action will not have a

significant economic impact on a substantial number of small entities.

#### VIII. International Trade Impact Statement

Office of Management and Budget directs the FAA to assess whether or not a regulatory change would affect international trade. We determined that the provisions of this rule will have no impact on trade for U.S. firms doing business in foreign countries and foreign firms doing business in the United States.

#### IX. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. §§1532-1538) requires the FAA to assess the effects of Federal regulatory actions on state, local, and tribal governments, and on the private sector of rules that contain a Federal intergovernmental or private sector mandate that exceeds \$100 million in any one year. This action does not contain such a mandate.